OT 04 204 E

PTO/SB/08a/b (08-03)
Approved for use through 07/31/2006, OMB 0551-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
dred to respond to a collection of information unless it contains a valid OMB control number.

Sub	estitute for form 1449A/B/P	TO.	F.	Complete if Known		
300	Summ ioi ioini 1440/4027			Application Number	10/643747	
IN	IFORMATIO	N DI	SCLOSURE	Filing Date	August 18, 2003	
S	TATEMENT	BY /	APPLICANT	First Named Inventor	Mark A. Reed	
				Art Unit	2811 1626	
	(Use as many sheets as necessary)			Examiner Name	Not Yet Assigned 162 Sa	
Sheet	1	of	1	Attorney Docket Number	YU-P07-002	

U.S. PATENT DOCUMENTS								
Examiner Initials*	Cite No.1	Document Number Number-Kind Code <sup>2</sup> ( # known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear			
	AA							

	FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No.	Foreign Patent Document  Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (# known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	70			
Ks		EP 0 268 370 A	25. 05.1988	(CANON KK)	page 14 line 37- line 41 figure 7				
	<u> </u>					Г			

"EXAMINER: initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant. 'Applicant's unique citation designation number (optional). 'See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. 'Senter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 'For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 'Skind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

	NON PATENT LITERATURE DOCUMENTS								
Examiner Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue_number(s), publisher, city and/or country where published.	T²						
Ks	CA	ZHOU, C. et al. "Nanoscale Metal/Self-Assembled Monolayer/Metal Heterostructures" Applied Physics Letters, American Institute of Physics, New York, US, Vol.71, No.5, 4 August 1997, pages 611-613.							
105	СВ	SCHUMM, J. S. et al. "Potential Molecular Wires And Molecular Alligator Clips" Nanotechnology, Institute of Physics, GB, Vol.7, No.4, December 1996, pages 430-433.							
k5	cc	DATTA, S. et al. "Molecular Ribbons" Semiconductor Science And Technology, Institute of Physics. London, GB, Vol.13, No.12, 1 December 1998, pages 1347-1353.							

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Oraw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Examiner Signature	Kand	Sneed	Date Considered	02	17/05
					9549105 1

<sup>&#</sup>x27;Applicant's unique citation designation number (optional). 'Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08A (10-01)

Approved for use through 10/31/2002.OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Su	bstitute for form 1449A/P	то		Complete if Known		
				Application Number	10/643747	
11	NFORMATIC	N DI	SCLOSURE	Filing Date	August 18, 2003	
5	STATEMENT	BY	APPLICANT	First Named Inventor	Mark A. Reed	
				Art Unit	2811- 1626	
	(use as many	sheets as	necessary)	Examiner Name	Not Yet Assigned Sales	
Sheet	1	of	3	Attorney Docket Number	YU-P07-002	

U.S. PATENT DOCUMENTS								
Examiner Initials*	Cite No.1	Document Number  Number-Kind Code <sup>2</sup> (I known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Retevant Passages or Retevant Figures Appear			
<u> </u>	AA	4,581,621	04-1986	Reed				
4_	AB	4,751,194	06-1988	Cibert et al.				
	AC	4,769,683	09-1988	Goronkin et al.				
	AD	4,783,427	11-1988	Reed et al.				
	AE	4,799,091	01-1989	Reed				
	AF	4,803,173	02-1989	Sill et al.				
	AG	4,835,578	05-1989	Ohtoshi et al.				
-T-	AH	4,860,064	08-1989	Luryi				
	AI_	4,894,526	01-1990	Bethea et al.	<u> </u>			
	AJ	4,902,912	02-1990	Capasso et al.				
	AK	4,903,101	02-1990	Maserijan	·			
	AL	4,992,388	02-1991	Pfiester				
	AM	4,999,682	03-1991	Xu et al.				
	AN	5,006,911	04-1991	Sivan				
	AO	5,013,683	05-1991	Petroff et al.	· ·			
	AP	5,026,894	06-1991	Tour et al.				
		5,032,877		Bate				
	AR	5,036,371	07-1991	Schwartz	· · · · · · · · · · · · · · · · · · ·			
	AS	5,047,355	09-1991	Huber et al.				
	AT	5,059,695	10-1991	Tour et al.				
	AU	5,073,893		Kondou	<del> </del>			
	AV	5,093,699		Weichold et al.	<del> </del>			
1		5,105,232		de Alamo et al.				
7		5,107,316		Jelley et al.				
1		5,114,877		Paoli et al.	<del>                                       </del>			
				Nagai et al.				
				Kulick				
1				Ando				
				Paoli et al.				
$\neg$				Fujioka	<del> </del>			
				Niu et al.	<del>                                     </del>			
		5,153,687		Ishikawa et al.	<del> </del>			
		5,160,992		Gerard et al.				
				Fukuzawa et al.				
		5,175,740		Elman et al.	<u> </u>			
				Jelley et al.				
$\overline{}$				Paoli	<del> </del>			
				Moskovits				
				Paoli	<del> </del>			

Examiner Kai	nal sneed	Date 02/	2/05
Signature		Considered 02/	7/0]

PTO/SB/08A (10-01)

Approved for use through 10/31/2002.OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Sut	stitute for form 1449A/P	то		Complete If Known		
				Application Number	10/643747	
11	NFORMATIC	ON DIS	CLOSURE	Filing Date	August 18, 2003	
S	TATEMENT	ГВҮА	PPLICANT	First Named Inventor	Mark A. Reed	
				Art Unit	2811 1626	
	(use as many	sheels as n	ecessary)	Examiner Name	Not Yet Assigned Soles	
Sheet	2	of	3	Attorney Docket Number	YU-P07-002	

	FOREIGN PATENT DOCUMENTS									
Examiner Initials*	Cite	Foreign Patent Document	Publication Data	Name of Patentee or	Pages, Columns, Lines, Where Relevant					
	No.	Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>6</sup> (if known)	MM-DD-YYYY	Applicant of Cited Document	Passages or Relevant Figures Appear	۲٥				
						П				
					<del> </del>	Н				
					1	┸┛				

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant

<sup>&</sup>lt;sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See attached Kinds Codes of USPTO Patent Documents at <a href="www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. <sup>6</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English tanguage Translation is attached.

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), data, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
5	BN	Callahan et al. The Tertiary Butyl Group as a Biocking Agent for Hydroxl, Sulfhydryl and Amido Functions in Peptide Synthesis, p. 201-207 (10 Jan. 1963).	
-	ВО	Farazdel et al. Electric Field Induced Intramolecular Electron Transfer in Spiro π-Electron Systems and Their Suitability. J. Am. Chem. Soc. 112, 4206-4214 (1990).	
	BP	Hush et al. Electron and Energy Transfer Through Bridged Systems. 6. Molecular Switches: The Critical Field. J. Am. Chem. Soc. 112, 4192-4197 (1990).	
$\neg \vdash$	BQ	IBM Technical Disclosure Bulletin, vol. 31, No. 9 (Feb. 1989).	T
	BR	Kenny et al. Synthesis of Molecular Lines, Rigid Linear Molecules with Nanometer Scale Dimensions. J. Chem. Soc., Chem. Commun. 84-85 (1988).	
	BS	Miller. Molecular Electronics? Adv. Mater. 2, 378-379, 492-497, 601-603 (1990).	
	ВТ	Nishimura et al. New Method for Removing the S-p-Methoxybenzyl and S-t-Butyl Groups of Cysteine Residues with Mercuric Trifluoroacetate. Chem. Pharm. Bull. 26, 1576-1585 (1978).	
	BU.	Sonogashira et al. A Convenient Synthesis of Acetylenes: Catalytic Substitutions of Acetylenic Hydrogen with Bromalkenes, Iodoarenes, and Bromophyridines. Tetrahedron Letters 4467-4470 (1975).	
	BV	Stephens. "A Synthesis of Tolanes and Heterocyclics" in The Substitution of Aryl Iodides with Cuprous Acetylides, p.3313-3315 (Dec. 1963).	
	BW	Stille. Palladium catalyzed coupling of organotin reagents with organic electrophiles. Pure & Appl. Chem. 57, 1771-1780 (1985).	
K3	ВХ	Stille. The Palladium-Catalyzed Cross-Coupling Reactions of Organotin Reagents with Organic Electrophiles. Angew. Chem. Int. Ed. Engl. 25, 508-524 (1986).	

Examiner Signature	kand	Salex	Date Considered	02	17/05

PTC/SB/08A (10-01)
Approved for use through 10/31/2002,0MB 0651-0031
U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE ond to a collection of information unless it contains a valid OMB control number. Under the Paperwork Reduction Act of 1995, no persons are required to re

Substitute for form 1449A/PTO				Complete if Known		
				Application Number	10/643747	
11	<b>VEORMATION</b>	N DI	SCLOSURE	Filing Date	August 18, 2003	
S	TATEMENT I	BY A	APPLICANT	First Named Inventor	Mark A. Reed	
				Art Unit	2814 (625	
	(use as many sh	eets as	necessary)	Examiner Name	Net-Yet Assigned Solery	
Sheet	3	of	3	Attorney Docket Number	YU-P07-002	

CS	BY	Suffert et al. Towards Molecular Electronics: A New Family of Aromatic Polymine Chelates Substituted with Alkyne Groups. Tetrahedron Letters 32, 757-760 (1991).
	BZ	Tour et al. Approaches to Orthogonally Fused Conducting Polymers for Molecular Electronics. Am. Chem. Soc. 5662-5663 (4 July 1990).
	CA	Tour et al. Extended Orthogonally Fused Conducting Oligomers for Molecular Electronic Devices. Am. Chem. Soc. 7064-7066 (28 Aug. 1991).
	СВ	Tour et al. Synthesis and UV-Visible Properties of Soluble alpha-Thiophene Oligomers.  Monomer to Octamer. Am. Chem. Soc. 1901-1907 (30 March 1992).
	CC	Yoshimura et al. Quantum Wire and dot formation by chemical vapor deposition and molecular layer deposition of one-dimensional conjugated polymer. Am. Inst. Physics 268-270 (20 Jan. 1992).
P	CD	Zecevic et al. Spectroscopic and Electrochemical Studies of Transition Metal Tertrasulfonated Phthalocyanines. J. Electroanal. Chem. 196, 339-358 (1985).

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Examiner	1- 1	Date	
Signature	Can a call	Considered	62/2/2/
Oignaturo		Considered	001.7703

<sup>&#</sup>x27;Applicant's unique citation designation number (optional). 'Applicant is to place a check mark here if English language Translation is attached.